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STATE OF WISCONSIN.

Arbor Day Proclamation

BY THE GOVERNOR

State Historical and
Natural History Society
DENVER, COLORADO.
MAR 5 1892

IN compliance with law, and in a spirit of fullest sympathy with a growing public sentiment,
I, GEORGE W. PECK, Governor of the State of Wisconsin, do hereby designate

Friday, April 29th, as Arbor Day for 1892,

And I earnestly recommend all of our citizens, as well as our schools, to observe this day. To this end let us unite in planting trees and their seeds in waste places, along the highways and about our public grounds. Let us plant vines and shrubs and flowers to make our homes, our school grounds, and our parks more attractive and pleasing.

With the loss of our trees, our fertile fields, which now yield bountiful harvests, would become barren, our broad rivers and beautiful lakes would dwindle to narrow brooks and stagnant ponds, and the hum of life would give place to desolation.

Every sentiment of local and national patriotism bids us hand on to posterity a rich heritage of these beautiful conservators of wealth and fertility; bids us train the pupils of our schools and the children of our homes to plant and care for trees, and to delight in making their school grounds and homes attractive.



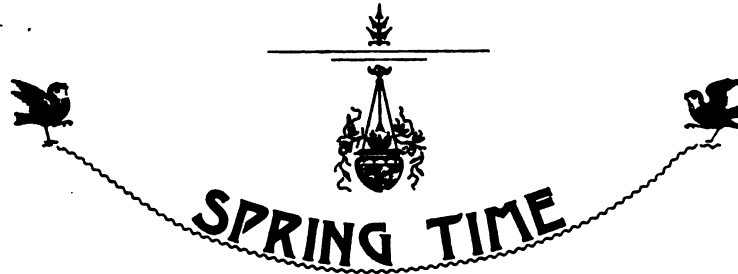
In Testimony Whereof, I have hereunto set my hand and caused the Great Seal of the State of Wisconsin to be affixed. Done at the City of Madison, this 11th day of April, in the year of our Lord, one thousand eight hundred and ninety-two.

GEORGE W. PECK.

By the Governor:

T. J. CUNNINGHAM,
Secretary of State.

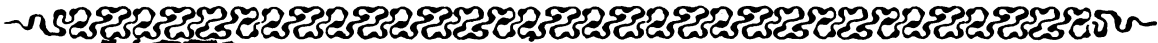




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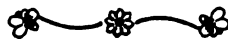


A CIRCULAR ISSUED BY THE

State Superintendent of Wisconsin

FOR THE USE OF THE

OFFICERS, TEACHERS & CHILDREN OF WISCONSIN SCHOOLS.



.
And Nature, the old nurse, took
The child upon her knee,
Saying: "Here is a story-book
Thy Father has written for thee."

"Come, wander with me," she said,
"Into regions yet untrod;
And read what is still unread
In the manuscripts of God."

And he wandered away and away
With Nature, the dear old nurse,
Who sang to him night and day
The rhymes of the universe.

And whenever the way seemed long,
Or his heart began to fail,
She would sing a more wonderful song,
Or tell a more marvellous tale.

.
THE FIFTIETH BIRTHDAY OF AGASSIZ.—Longfellow.

1892.

Spring-Time * and * Arbor * Day.

1892.

To the Boys and Girls of Wisconsin:

As I write this another spring is almost upon us. It will bring to you a hundred pleasant messages inviting you to come out-of-doors. Through the long winter months you have been studying books written by men and learning from them many useful facts. With the spring-time Nature begins to turn anew the charming pages of her great book, and you will find comfort and pleasure and knowledge in learning to read them.

Nature's story is always old yet always new. It is told by the birds in their songs; by the bees in their humming; by the brooks in their rippling; by the wind in the tree tops. The springing grass which makes the pastures green; the trees whose budding leaves soften the landscape, the tinted flowers, all decorate the pages of Nature's book with more charming pictures than man can make. Even the time worn rocks tell part of the story of the earth to those who learn their language. Wise men have studied these pages, which the seasons turn, through all their lives with ever growing pleasure. And why should we not study this great ball on which we live? It was our cradle and will be our grave, and all our days are spent upon it.

I want you to be interested in Arbor Day, but, more than all, I want you to learn to enjoy the beautiful gifts and sights so freely scattered about you in the spring. In every form of life, in the bees, the birds, the squirrels, the plants, the flowers, the trees are curious and beautiful things to amuse, charm and instruct you.

When you first began to read your books at school the pages were simply white leaves with black spots scattered over them. Now these pages tell you stories, and from them you make pleasant pictures in your minds. When you begin to study the living forms of plant and animal life, you will learn to read them slowly at first. Soon, however, as you learn to spell the words in Nature's book, you will find stories of beauties and wonders that have been lying before you all your lives. You simply have not thought to read them.

Have you read the life of a butterfly? Not as it is told in men's books, but as you may watch its growth in the green fields? Have you stood by the pool and watched the frogs' nursery and school? Have you seen the plant springing from the seed and watched it make the round of its life till it bears a new seed? Can you tell the evening song of the late robin? Have you watched his feathered mates as they make their nests and feed their young? Can you tell the different trees by their names and point out the differences of their leaves, branches and bark? There are a thousand things worth seeing if you will only get your eyes opened. Get into the habit of seeing and you will find a new world of beauties in the fields and forests, in the brooks and ponds about you.

And this is what I mean when I ask you to listen to the messages of the spring. You will not learn all that Nature has to teach, but you will hear and see countless stories of life to which you have before been blind and deaf. As you find new things, which you do not understand, study them out if you can with your playmates, your teacher and your parents. You can ask your teacher many questions that she cannot answer—some questions, it may be, that the wisest men of all the ages have not been able to answer. But keep on. You will find the answers to many questions, and every fact learned will help to gain new facts. Curiosity is the mother of knowledge. You have the right to know many of these things, and you have hands and minds and eyes and ears to help you find out about them. The brightest, happiest and most successful men and women are not those who have got most of their knowledge from men's books, but those who have learned how to make the things they meet tell them their stories. Confidence and perseverance are the qualities you need in this study.

Four hundred years ago, in 1492, Columbus sailed from the coast of Spain with three vessels which we should now think very clumsy and slow. If he had sailed west for a few days, north for a few days, and then east and then south, as many others had done, he would have learned little and we should never have heard of him. But he kept sailing towards the west day by day and week by week and, though he sailed slowly, after ten weeks he found a new world.

You will not need to sail to a far country, as Columbus did, to find strange and curious sights, forms of life that are new and wonderful to you, but you will need, like him, to venture boldly out of the beaten paths you have trod so long and follow steadily the new paths that Nature will point out for you in this beautiful spring time.

O. E. WELLS,
State Superintendent.

MADISON, WIS., March 21, 1892.

Throughout the length and breadth of the state of Wisconsin, Arbor Day was observed last Spring with a zest before unknown. The generous prizes offered by the Governor to the schools of the various counties for the best observance of the day and the greatest comparative improvement in school premises drew hundreds of school districts into competition and showed what may be accomplished for beautiful school homes by systematic work.

The Governor's principal object in giving the prizes was to start an interest in Arbor Day that should grow. The schools will best show their appreciation of his generosity by following the work of 1891 with a growing interest and enthusiasm.

The boys and girls of the district schools who live in constant touch with nature in all her moods need only a kindly and intelligent stimulus to get an enjoyment from trees, plants and flowers that their city cousins cannot gain. As they learn to observe nature in one of her most charming aspects, as they are taught how trees grow, how they soften the rigors of the climate, store the rainfall of the spring and mitigate the heat and drouth of summer they are led to study the laws which bind all nature so skillfully and blend the relations of all physical phenomena so closely that, in the world's economy, even the fall of the sparrow brings other results in its train. The devastation of our forests is a harbinger of troubles unless the future citizens of our country are trained to know the climatic value of trees, as well as their beauty, and to replace those destroyed by others.

It is important that the good work of 1891 be followed by better work in 1892, and that the public interest in the coming Arbor Day be aroused to accomplish even greater things. It is not too much to hope and work for the day when cheerless school-rooms shall be converted into airy, well ventilated apartments, with neat and handsome appointments and all the accessories that make the living rooms of our cheeriest homes inviting; for outbuildings that are clean, sanitary, secluded from inquisitive eyes and models of what the homes should afford; for lawns free from rubbish, stones and stumps, well graded, sodded and restful to the eyes, with flowers and shrubs which the children may be trained to protect and cultivate. The day when every school district cares for and cherishes a clean, attractive and beautiful school home for its children will see the dawn of a richer and more earnest educational sentiment and a worthier love for the better homes that will spring up about them.

To Teachers:

The world will soon be fresh and green, throbbing with many forms of re-kindling life. As Nature dons her new dress and the fields and woods invite us into the open air, the children are stirred with the spirit of the season. Their curiosity is now easily aroused and should be excited rather than repressed. Draw them to the study of nature. When their interest is aroused you will often find them leading you into new fields. Do not be afraid to follow. This work does not find its fulfillment simply in the answering of questions. Its object is to awaken curiosity and lead to study. In the "Manual of the Elementary Course of Study" you will find many hints as to how you may conduct this study of nature. Many plans and methods will occur to you when you become interested. Only take pains to study the objects themselves, and be content to learn what these objects teach—no less, no more—and you will be surprised to find what a bright and interesting world you live in.

This circular is intended to give you materials to use in stimulating this love of nature in the minds of the pupils. There are interesting selections that you may read to the younger pupils, or have them read. Others that they may commit to memory. There are charming extracts from the writings of the great prose writers and poets that should be read or learned by the older pupils, that the spirit of the writers may mould and refine their lives. There are hints as to the care of the school grounds and materials for Arbor Day exercises.

Do not wait for Arbor Day to commence this work. Begin with the early spring to clear the school yard and open the eyes of the children. Arbor Day should not be a spasmodic attempt at tree planting. It

should be the culmination of a growing interest in Nature, and the planting of the trees, if they are necessary, should be the crowning effort in making the school grounds neat, homelike and attractive.

In this work of beautifying the school grounds, you must first get the children at work. Every child who helps becomes a warm friend of the movement. Through the children get the parents and school officers. First clear the grounds of all rubbish, get the wood neatly piled, the grounds and roadside clean and neat, the stumps and stones removed, so that you can see what possibilities there are in the premises. Are there unsightly out-buildings? Can they be cleaned, repaired and hid from public view by evergreens? Is there a nice place for a flower bed? Is the roadside bare of trees? Is there an opportunity for a lawn or for shade trees outside of the regular play ground? Can you make the school room itself more inviting by the expenditure of a little labor or money? As you study the possibilities, you will see new opportunities, and as your enthusiasm grows it will become contagious.

In making arrangements for Arbor Day exercises, give places to as many of the children as possible. Give the smaller children very brief selections to learn, but give each one something. This will help draw the parents.

A program is given elsewhere and an abundance of materials so that it may easily be changed to suit your special needs. It was thought best this year to issue this circular in advance of the Governor's Arbor Day proclamation, in order to give more time for preparation, as the date of the holiday must be determined somewhat by the character of the season.

Last year hundreds of teachers in Wisconsin led their pupils and the patrons of the schools to make their school premises more homelike and attractive. Such premises have been object lessons to all the passers by and your work this year will be easier on that account.

"As the teacher so is the school." Be leaders; earnest, active and enthusiastic, and you will find a following.

SPRING FLOWERS.

C. H. SYLVESTER, Whitewater.

There is hardly a child under twelve who is not an embryo flower-worshipper, and if the teacher allows the spring to pass without stimulating this passion into activity he is marvelously negligent. Pupils like to watch for the first blossom, keep a record of the appearance of the species and see who can discover the largest number of kinds. But one need not wait for the flowers out of doors.

As soon as the snow is gone he can walk into the woods and chop from the frozen ground a few *Hepatica* (liverwort) roots whose large, persistent, three-lobed leaves will show where the bud is hiding. These he can plant in a box in the window and soon little woolly heads will appear and open their lovely sepals, pale lavender, pink or white. These give place to small heads of fruit each in its three-leaved cup, and lastly the hairy new leaves will come into sight. There is something fascinating in this cycle of life. One should not throw away the plant but should set it out in a damp and shady place where it will live and be pretty for many a spring to come.

If one cannot get *Hepaticas*, willow branches will develop their pussies, poplars will wave their tassels and hazels will soften their hard pendants which have withstood the cold of winter, and will shower their pollen on the minute scarlet pistils that come from remote buds to receive it. It is a luxury to watch the life coming into the apparently dead twigs under the genial warmth of the school-room, and the moisture from the glass of water into which the broken stems have been placed.

When the buds begin to burst and the flowers to bloom outside, then the school room should be as full of cheer as all nature is. There is such a world to see and so short a time to see it in. Look and admire, wonder and exclaim, speculate and enquire, but don't teach, don't teach the children a thing. When they ask, answer by all means, if you can. If they want names for the plants and you can't give them, let the children invent appropriate ones. But I say again don't try to teach a single fact—let the facts alone, they'll teach themselves. Converse, show relations, make comparisons, describe habitats and uses. But above all, attract the children to the world of beauty in each new flower by allowing it to lighten up your own countenance and excite yourself to admiration. We must all be learners ourselves, watching closely, seeing all we can. The children will notice us examining the plants as though we loved them and then we have begun our success, for interest is contagious. Without speaking a word, I have caused the roughest, coarsest and least impressionable boy to examine a flower attentively by simply going repeatedly to it and looking at it with interest myself.

Material is not lacking. If there is a rocky hill with a south or west slope, almost as soon as the snow is gone, the Pasque flower is seen warmly wrapped in his gray pea-jacket which some bright day he will open and disclose its delicate lavender lining lying next his golden heart. Blossom first, leaves next, then the big head of long tailed achenia for fruit—is the order of things here the same that we saw in the *Hepatica*?

Damp open woods will furnish both wood and rue anemones or wind flowers. The former is not half appreciated because its modest, blushing little down-cast face is nearly hidden in the big spreading involucre. The slender root-stock at right angles to the stem is worth seeing as are the fascicled roots of the other plant. If the woods are very damp they may produce false rue anemones (*Isopyrum*) which strongly resembles the rue anemone but is far prettier and more graceful. Its roots are long and matted and covered with queer little nodules. These all belong to the great Crowfoot family that always moves on the first of May.

The comparison of the different kinds of violets would make an hour go pleasantly as in many localities it is possible to get without difficulty a half-dozen species. Perhaps some one may be lucky and find dogtooth violets which, of course, are not violets at all but beautiful little lilies, each single blossom hanging gracefully on a stem that rises from between two broad, glossy green leaves, sometimes blotched with purple. The flower may be bluish-white or yellow; in the former case the leaves ought to be green, in the latter they may be mottled. As a matter of fact, both species disobey orders and frequently have spotted leaves and the yellow adder's tongue sports those of immaculate green. It is from a very deep bulb that this bit of royalty comes and it sadly objects to being torn from its chosen home. Nothing repays study better than the Dutchman's Breeches. Now we would rebel and call that most pure and delicate thing the squirrel corn if Mr. Gray had not been so unkind as to restrict the latter name to a species we are not so apt to find. But it is interesting in its scaly bulbs, its many-divided leaves, its two minute sepals, its peculiar petals—why, one can keep children talking for days about it and its coarser and more showy relative, the bleeding-heart.

Is the soil dry and inclined to be sandy? Then buttercups of several species, gay yellow puccoons and the long purple spikes of the wild lupine are available. Probably the brilliant painted-cup will make whole fields scarlet or yellow, for to spite the botanists this wild Indian warrior as we used to call it persists in some localities in being totally and irrevocably yellow. This last plant is apt to favor swampy places or low meadows though it is not particular if it has plenty of sun. With it, can usually be found one or more varieties of the lady's slipper, too well known to need praise. One could without difficulty make a list of fifty species of attractive flowering plants that are available in almost any locality before the middle of June. But there is little advantage in that. It is not so much what we use to bring about the thing we wish as that we use something. We ought to refuse nothing however insignificant; some of the most interesting of early plants are the least attractive at first glance. Moreover if the plant, weed though it be, is brought by a pupil it shows that we are accomplishing the very thing for which we strive, the inculcation of the habit of observation.

A person can purchase at a nominal cost plenty of books that will help him to demolish every specimen and destroy all its beauty in the most scientific manner and will tell him all essential facts in the most apt and pertinent way. It is well to buy a Botany for one's own improvement, but let him remember that a text-book has a passion for getting in between the teacher and his pupils. Science is not wanted, facts are not wanted in the lower classes; it is love of nature and an appreciation of its beauties that come only from contact with it that we must teach, so that when the child is grown and the years press upon him he will know how and where to go to the fountain-head of rest and recreation.

THE MIGRATION AND USEFULNESS OF OUR BIRDS.

PROF. F. H. KING.

During the winter months, save the partridge, prairie chicken, quail and a few other species, Wisconsin has no birds. But as soon as bare ground begins to appear and the warm rays of the sun to loosen the soil, setting free beetles and caterpillars, so soon there appear among us the robin, the bluebird and the gull. Where did they come from? Early in April the little brown creepers are clambering like woodpeckers over tree-trunks and limbs, the purple finches are plucking buds from various trees, and the golden crowned kinglets are driving a vigorous business among the village shade trees, in groves and in thickets bordering marshes and streams, but in about thirty days these have vanished as mysteriously as they came. Then come the early May mornings, and somehow with them that wonderful group of woodland warblers, clad in inapproachable wedding robes, evolved during the centuries in the solitudes of American forests. But in about three weeks nearly every species of this beautiful train vanish. Year after year they come and go as regularly as the tides. But the warblers do not reach us alone. With them come the swallows, the greenlets and many of the finches as well as numerous other species, some to remain during the summer to build their nests and rear their young, while others pause for a day and then hasten on.

On the other side of summer, during the later days of September and early October, those birds which come suddenly in the spring and as quickly vanish again reappear but only to set off in a few short days.

These sudden appearances and disappearances of birds have, from the earliest periods, attracted the attention of people both civilized and uncivilized. So stoutly and persistently has it been affirmed that swallows hibernate in the mud at the bottom of ponds and streams, as frogs do, that it is still believed to be the fact by some people both in this country and in Europe; and yet it is a well established fact that the great majority of birds in the cold and temperate zones of the northern hemisphere make longer or shorter journeys regularly twice each year.

Every spring a vast throng of feathered forms turn their faces poleward to repopulate nearly a full third of the land and shore waters of the northern hemisphere. With heads full of plans, breasts full of feeling and throats full of song, they turn their backs upon the sunny south with all its luxuriance, and move, like a great army, out of South and Central America, out of the Caribbean islands, out of Africa and out of India with its adjacent islands toward frozen lands and frozen seas.

The distances over which birds migrate vary between wide limits and are often surprisingly great, especially when we consider the small size of some of these animated beings which transport themselves twice each year across the interval between their homes. The bobolinks, which rear their young on the shores of Lake Winnipeg and then go with them to Cuba and Porto Rico to spend the winter, must twice traverse a distance exceeding 2,800 miles, or more than a fifth of the circumference of our earth each year.

The kingbird breeds as far north as the 57th degree of latitude, and is found in the winter in South America. The biennial pilgrimages of the little redstart exceed 3,000 miles, and those of the tiny humming bird, whose body would make a scant thimbleful of flesh all told, are scarcely less, and certainly exceed 2,000 miles. But that beautiful little summer yellow bird, which occasionally builds its nest under our chamber window, sends some of its kin even to the white sea-foam of the Arctic ocean, where they arrive the last of May, only ten or fifteen days after the sun has begun to ride continuously above the horizon, and yet these have come all the way from Guatemala, over a distance of 3,800 miles, leaving members, even of their own species, to spend the summer among those tropical scenes. Wonderful mechanism that, which in a stomach no larger than a pea, and an alimentary canal about six inches long, will manufacture from two or three slim caterpillars, a fly, a moth or a spider, its own fuel and use it with such incomparable economy as to transport itself through the air during a whole night, at the rate of about fifty miles per hour and at the same time maintain its temperature at about 104° F. in a surrounding medium not exceeding fifty or sixty degrees! and yet this is what the summer yellow bird does during its extended journeys. It has been estimated that some of the swallows are capable of doing seventy miles an hour.

The exquisite and varied songs of many birds, their beautiful colors, their graceful forms, their curious methods of nest building and their attractive ways have always made them objects of intense interest to the young. There is, however, another side to bird life which should be far better known and much more fully appreciated than it is. I refer to their great and indispensable services to man as insect destroyers. There are exceptions to the general rule, it is true, but taken as a class the world over, it is safe to say that more than three-fourths of the food of all land birds is insects.

From the stomach of a wild pigeon were taken nine full grown crickets, four grasshoppers, two caterpillars and one harvestman. From the stomach of a young partridge less than a week old were taken thirteen caterpillars, seven harvestmen and one grub; from that of a night-hawk were taken five grasshoppers, eight square shouldered bugs and ten scorpion bugs, none of which were less than three-fourths of an inch long. Three golden-winged woodpeckers had in their stomachs respectively 255, 220 and 200 ants each. In the stomach of one hairy woodpecker were found eleven wood-boring grubs and thirteen measuring worms. The actual amount of food which these birds consume daily, if we except the night-hawk, is probably three times that which was found in their stomachs. Seven Carolina waxwings, or cherry birds, as they are called with us, shot in an orchard infested with canker-worms, were found to have in their stomachs nearly 100 of these destructive pests each.

It has been shown by careful estimate that the number of birds which spend the summer in Wisconsin must exceed 22,000,000 and the members of this vast army are hotly in pursuit of our insect enemies during 120 consecutive days, capturing and destroying certainly more than fifty insects each, daily. Further

than this the number of birds which pass through our state on their way to and from their summer homes is much greater than those which live with us and the service they render is very great and extremely important. In the spring they snatch up many a beetle, moth and fly which have survived the rigors of winter and are just out to lay their eggs. While in the fall they capture those which have either found or are in quest of winter homes. Twice every year the birds of British America ransack the United States and hold the average yield of orchard, garden, pasture, field and meadow far above what it might otherwise be.

Much may be done to increase our bird population, and in this direction is to be found one of the great advantages of the Arbor Day efforts. Birds are fond of trees and many require them. The lone trees standing in the fields should not all be cut down, the king birds need them and they will more than repay whatever damage these trees may do. I believe it would pay, not only to leave some of those native trees standing which are growing along line fences, but to plant others there for the express purpose of furnishing nesting places for birds.

Boys should be encouraged to put up bird houses, not only upon the barn or house, but at various places in the open fields. The bluebird, house wren and the purple martin are birds which never molest fruit or grain and will occupy these houses gladly. Barns should be constructed to let the swallows in rather than to keep them out. They are great destroyers of the mosquitos and flies which worry stock, including the bot-flies which infest horses, cattle and sheep.

Every town has its boys and men who think they must learn to shoot on the wing, and no bird is a better target for them than the meadow lark. The result is thousands of these birds are destroyed every year. The whole of this sort of bird shooting and nest-robbing which is done for pastime should be prohibited. Even if it were not unpardonably cruel the birds render too valuable service to be destroyed in this manner. I believe that every meadow lark reared in a meadow saves annually a full ton of hay in the destruction of grasshoppers, crickets and cut-worms which infest hay fields, cutting off the fine leaves and tenderest blades which constitute the most valuable part of the crop.

DIRECTIONS FOR MAKING AND CARING FOR THE LAWN.

PROF. E. S. GOFF.

"A narrow vista, carpeted
With rich green grass invites my tread."

No one feature adds more to the attractiveness of either public or private grounds than a fine, smooth, well-kept lawn. Without this, much of the beauty of trees, shrubs and flowers is lost; with it, even ordinary surroundings are rendered attractive.

Many of our school grounds are of such extent that the whole area is not needed as a play ground. The attractiveness of the grounds would be enhanced if the portions not needed by the children for sports were prepared and cared for as a lawn. The presence of an un-

broken turf on any part of the grounds may be taken as a sure evidence that such portions are not needed as play-ground, and are therefore available as a lawn. The attention of school officers and others interested is invited to this subject, and it is hoped that all may feel the importance of maintaining an attractive lawn, as well as of planting trees and shrubs. As an aid to this end, brief directions are here given for preparing and caring for the lawn.

A rich soil is the first and most essential requisite to a good lawn. If the soil of the school ground is naturally poor and dry, so that in times of drought the grass apparently dies, a liberal dressing of fine manure will be absolutely essential to a fine luxuriant turf. In almost every case manuring is desirable. Where swamp muck can be readily secured, this may be used in connection with the manure with great advantage. If the surface of the ground is already uniform, the manure and muck may be applied as a top dressing, and so leveled with the rake as to fill in the small depressions; but if any considerable irregularities of surface exist it will be necessary to break up the sod, and after properly leveling the surface, to seed the ground anew. When necessary, provision should be made for surface drainage, in order that water may not stand upon the lawn at any time of the year.

In case it is necessary to break up the ground for reseeding, it will be well to manure and plow it in August or early in September in order that the sod may have time to partially decay before the final leveling and seeding. The ground should then be harrowed occasionally until late in autumn, to keep down weeds and level the surface. Just before freezing weather, it should receive the final leveling, at which the surface should be made as fine and smooth as an onion bed. Then, after a light fall of snow in the following March, sow a mixture of seeds composed of equal parts, *by weight*, of Kentucky blue grass, red-top and white clover, using a peck of the mixture to each one hundred square feet. The melting snow will deposit the seed evenly over the soil and the early spring rains will cause it to germinate before dry weather comes on. Some weeds will of course spring up with the grasses, but the lawn mower will readily reduce these to subjection, and by the end of the season, unless the weather should prove extremely dry, a fine turf will have been formed.

Much of the beauty of a lawn depends upon a frequent use of the lawn mower during the first half of the season. Later mowings may be less frequent, though the grass should not be permitted at any time to grow more than three inches tall. Excellent lawn mowers are now sold at a very reasonable price, and by apportioning the work of cutting the school lawn among the older boys, little difficulty need be experienced in keeping it in excellent trim during term time. In the summer vacation, some work from outside sources may be required, but if the teacher has done her full duty in seeking to inspire in her students a feeling of pride in the appearance of the school grounds, this matter will, in most cases, take care of itself.

FLOWER BEDS FOR SCHOOL GROUNDS.

MRS. VIE H. CAMPBELL.

Flower beds on the school grounds give so much pleasure for a little effort that the labor is almost lost sight of. Even the youngest pupil can aid in their preparation and care; little fingers are often more deft and skillful than larger ones.

I have selected a list of six different flowers as most suitable and desirable, because easy of cultivation, and they will give better returns for the labor and care than many others. They are pansies, verbenas, asters (dwarf varieties), nasturtiums (dwarf varieties), mignonette and sweet peas. If you buy one mixed package of each kind, they will afford all the plants you will have time to prepare beds for and take care of this year, and the six packages will only cost fifty cents. Any reliable dealer will furnish them to you but you will secure better results if you buy them of some one who makes a specialty of growing the flower seeds he sells.

Order the seeds early that you may have them in time.

In selecting the place for the flower beds you will be governed by the arrangement of your grounds. No flowers will do well with entire shade nor very near trees. You can have them near the school house, but not so near that the rain dripping from the roof will injure the beds by washing out the soil. Make the beds narrow and long, rather than square, that they may be the more easily cared for. You will need something to enclose them or the edges will be worn away by the rain and the care. Pick up the stones you have used for your play-houses and place them close together, side by side, making a bed, for each kind you are to sow, about four feet long and eighteen inches wide. If you have no stones you can make very pretty beds by simply cutting out the sod just the size wanted for the bed. Either is prettier than beds formed with boards and is more durable. Sod is not good for the sides because the grass will soon encroach upon the plants. If you use the stones the sod must be carefully cut out. The beds must be filled with good mellow soil. If your school house is near the woods the older boys can borrow a wheel-barrow and spade and wheel three or four loads of leaf mold to fill them. If you are not near enough to get the leaf mold you can cut the sod out near the roadside and take the soil from there. It will not be quite as good as the leaf mold and will require a little more work to prepare it for the seeds, because it will have to be fine and perfectly free from lumps. This year you will probably have to borrow tools to work with, but, if you are careful of them, and interested in your flowers, I

think it will be easy to secure a rake and three or four hand weeders next year.

Make the beds smooth and level. It is better to sow the pansy seeds in the bed on the east side of the school-house. They like light but not too much sun; the seeds must be very lightly covered and never allowed to get dry after sowing, because the tiny germ is so delicate that it will die if the soil gets dry.

You will have nicer flowers if your plants are six or eight inches apart; if they come up too thickly you can easily transplant them. Keep the soil well stirred and free from weeds, and, probably before the spring term closes you will be rewarded by seeing the little buds, that look like poke-bonnets, appear and the queer, little faces will look up into yours as though thanking you for giving them a chance to grow.

The sweet peas will come up sooner if soaked in a dish of water for a few hours before sowing. Put them in the ground about six inches deep, one row on each side of the bed. They will stand up better if covered deeply. You will need a support for them and you can make it as soon as they come up, and when they put out their little tendrils (their hands) there will be something for them to cling to. Get four sticks about one inch square and about four feet long; drive one down, about four inches, in each corner of the bed; get a stout piece of cord and tie to the tops of the sticks lengthways, then drive down small sticks, five or six inches in length, near the plants, tying twine on the top of the sticks and to the stout cord. This will make a cheap support for the vines and is something you can make yourselves.

Nasturtium seeds ought to be sowed about one inch deep. They will do well on poor, rocky soil. The other seeds must be sowed and cared for much the same as the pansies, except that they must be sowed a little deeper.

You may not have many flowers before the spring term closes, but if you take good care of them you will have fine, healthy plants that will give you a great many flowers all through the fall term. The pansies will blossom until the ground freezes, and, if cut back in the spring, will give you flowers all through the spring term.

You will need to appoint a committee to give the plants a little care through the summer vacation.

There are other varieties of flowers that bloom earlier in the season but they are not so desirable for cut flowers as the ones I have recommended; with those you will have enough plants to afford a bouquet every day.

If you could make a bed on the north side of the school-house for ferns, or under the shade of some tree, your collection would be quite complete.

Arbor Day and Trees.

It was a part of the purpose in the establishment of Arbor Day to beget appreciation of the economic value, the grandeur and beauty of trees and forests.

To enumerate all the uses of forest products would require the exploration of nearly every field and phase of human industry. The climatic and sanitary influence of forests touches the springs of life and the sources of material prosperity. The figures that tell the value of the yearly contribution of the woods to the world's wealth are bewildering. In our own country trees yield an annual harvest three times richer than our wheat crop, and thrice that of the output of all our gold and silver mines.

It is doubtful if toil wrings from the earth in cereal products a richer harvest than the untilled forests yield. But the wealth of the woods is the gift of the silent centuries. Trees, fertilized by their own foliage, fed by the earth and watered by the sky, bring their unbought contributions to every field of human industry, minister to the comforts and the elegancies of life, enrich every sense with their fruit and their fragrance, with the melody of their music, and their beauty of form and foliage. Trees imprison the wealth of melting snows and of falling showers in cisterns woven of their fragile roots, holding back their reserves from the drenched fields in spring, and yielding them to the parched soil in the hot and arid summer. Forests arrest the scorching blasts of summer and the chilling winds of winter; dam up the waters that would sweep to destruction the ungarnered wealth of fields and flocks; preserve the springs and rivulets that make glad the beasts of the field and the fowls of the air; give to rivers a more constant flow; absorb the poisonous exhalations of the atmosphere, and pour back into it a steady flow of pure, life-giving moisture. Birds learn their music from the whispering leaves and the murmuring brooks, and so brooks and birds follow the forests, leaving to the parched earth only such melodies as may lie on the other side of silence. The disappearance of forests has been everywhere marked by destructive floods; by diminished rainfall; by parched and sterile fields and sear and cheerless landscapes.

In older countries the economic and sanitary worth of the woods is so well known that trees are cherished there as the fountains of life and the sources of prosperity to the husbandman. But we squander with lavish hand the harvest that unbroken ages ripened. All too rapidly our glorious forests are vanishing before the cruel strokes of the woodman's axe. The older states, formerly so richly wooded, are well nigh denuded of timber; while great treeless plains stretch in

unbroken reaches from the Mississippi to the foothills of the Rockies. If we would not share the fate that has befallen so many countries of the old world, whose fertile fields have become barren plains and whose wooded slopes, once the rich pasture grounds of countless herds, have become sterile knobs, we must begin to plant trees. We must plant them on our playgrounds and by the roadside, plant them on the hill tops and in sterile fields, plant them on every rood of ground that will not yield bread to the sower or meat to the eater.

Plant varieties that grow and thrive in your own neighborhood. The white elm will flourish on a great variety of soils, but is at its best on clayey ground, or where the sub-soil is clay. For majestic form and depth of shade this tree is the monarch of the woods. The oaks are slow growers; but they endure hardships like good soldiers, and struggle up to vigorous self-poised life amid bleakest surroundings. In beauty of form and finish the leaf of the red oak is without a rival, while the tree itself is the most fitting emblem in the forest of that enduring strength that bides its time amid storm and strife. Plant an oak and its green leaves will bear your greetings to generations that will be born in the good time coming. Hard maples may be planted on almost any soil, but perhaps thrive best on light loams or sand. Their compact, oval tops, and brilliant green foliage render them the most desirable shade trees that are to the manor born. They will hold the tints of the western sky incarnadined in their foliage, long after the elms have shaken down "the last leaf upon the trees." The cut-leaved white birch is, perhaps, the most desirable tree for open lawns, where beauty of form and foliage rather than shade is sought. Arbor Vitæ, the Austrian and white pines, Norway spruce and balsam-fir make excellent screens for out-buildings, and with their "living green" foliage break the monotony of landscapes rendered sear and brown by the frost of autumn, or white by the winter's snow. These are not desirable shade trees, but give pleasing variety to forest foliage, and may be utilized to hide unpleasant things, and to cover bleak hillsides and barren grounds. The hickory, the white ash, the basswood, the black walnut, the butternut, the black cherry, the horse chestnut and the mountain ash will grow anywhere in Wisconsin where cereal crops may be raised. Each of these has a beauty that is all its own. The white willow grows luxuriantly in the soft ooze of our moist land, and with the bright emerald tints of its foliage will add splendor to any landscape. The weeping willow, as well as the white birch, is a graceful tree for an open lawn. Each of them responds with a tremor

to every suggestion of the whispering wind. The red maple is a quick grower, and at its best is a beautiful tree; but it is ill-fitted to wrestle with the fierce blasts that sweep our open fields. It should be planted only in sheltered spots, or where hardier trees will receive the first shock of the storm.

White elms, hard maples, oaks, hickories and white ashes are, for depth of shade, strength and grandeur of form, and richness and beauty of foliage, the noblest trees of our forests; and from these, and in the order named, it is best to choose the ones that are to be planted amid the festivities of Arbor Day.

Trees that have grown in open places are hardier, and will bear transplanting better than those that have grown under the protection of the deeper woods. Moreover, such trees like those from the nursery have an abundance of fibrous roots, on which the tree must rely for support until its stronger roots have had time to lay hold on the moist subsoil beneath. Lateral roots should be traced so far as convenience in handling will allow. These will help to furnish nutrition, and when firmed will hold the tree securely in its place.

Roots should not be exposed to the sun or drying winds, but should be kept moist with a covering of straw, moss or canvass. Holes dug for the reception of trees should be wide enough to admit the roots without bending. It is better to cut roots than to double them back on themselves. Forest trees should be set little if any deeper than they stood before transplanting. Where the soil is poor, loam from the forest should be spread over the place prepared for the reception of the tree, and after the roots and rootlets have been carefully adjusted to their places, rich, soft loam should be firmly pressed about them.

"Wide let its hollow bed be made;
There gently lay the roots, and there
Sift the dark mold with kindly care,
And press it o'er them tenderly."

If the soil be dry, moisten, but do not drench it. After enough dirt has been packed about the fibrous roots to protect them from harm, as the hole is filled the dirt should be trodden so firmly as to hold the tree securely in an upright position. Fill to about the level of the surrounding surface. It is not desirable that surface water should be drained either toward or from the tree. If the trees are large and it be found necessary to hold them in position by guy wires, let them be thickly wound with cloths to prevent injury, and the far ends of the wires be fastened at points above the reach. A mulch of straw, leaves or wood chips should be spread over the fresh surface around a newly planted tree, to retain moisture.

Transplanted trees will generally need occasional watering during the parching weather of the first and second summers. Indeed, when the tree is first planted it is full of sap, and will bear the strain of the first, better than that of the second summer. Small

trees—from ten to fifteen feet high—will keep their natural outlines, and will remain a delight to the eye long after the headless poles that we are wont to plant are dead and forgotten. Leave the leader, but thin out or cut back the branches in about the same proportion that the tree has been bereft of its roots. Do not cut off the head of a tree, if any sense of beauty or symmetry has been implanted in your own. Each variety of forest trees has its characteristic form and feature, and each will develop in harmony with its general plan, if it be not mangled by the pruning knife, and if it be so placed that it will be kissed by the sun on every side, and be forced to cope in storm and strife with every wind that blows. There is neither majesty nor beauty in a distorted or one sided tree; but distorted it must be if sun and sky are shut from either side. In grove and forest planting more trees may be started than are expected to remain to grow to full size; but elms, oaks and maples, when planted for shade, and in avenues, should not be less than thirty feet apart, and other varieties not less than twenty. Trees should not be planted so near school rooms as to obstruct free circulation of air, or to hinder the free admission of light. Trees planted on school grounds should be protected by individual guards, and those bordering the outer walks should be protected by a bar to prevent injury from passing vehicles.

Forest trees can be transplanted with greatest security in the spring, after the ground has settled and before the leaves appear.

The influence of Arbor Day upon the character and conduct of the young may be priceless. They should be taught that the benefactions of the tree are innumerable; that under heaven there is no better friend to man; that forests are the factories of rivers and rains; that their foliage lends beauty, and their decaying vegetation lends fertility to the fields and waters. To awaken a love of the beautiful in the hearts of the boys and girls is to open perennial fountains of pleasure, even for the humblest lives. Teach them to love trees and they will love all beautiful things. The patriotism that endures the strain of national disaster is rooted in the love of home and its surroundings, and these will be rendered beautiful under the noble passion engendered by Arbor Day. There is deep morality in the purpose to hand on unimpaired the rich inheritance that we have received from the past. Teach the boys and girls that the tree that they plant on their gala day will rear its green coronal of leaves to the summer sky in the years that lie far on in the distant future. That each new summer children will disport themselves round its giant stem, and silver throated songsters will carol their joy amid its branches. That the distant traveler, as he cools his heated brow beneath the tree that they planted by the roadside, will bless the hands that will then be silent and still.

ARBOR DAY PROGRAM FOR A DISTRICT SCHOOL.

Music — America.
 Reading Governor's Arbor Day Proclamation.
 Roll call — Answering With Quotations.
 Object of Arbor Day — Address by Teacher or Citizen.
 Recitation — Plant a Tree — Lucy Larcom.
 Essay — The Trees of our Town.
 Reading — The Anxious Leaf — Beecher.
 Music — Woodman, Spare That Tree.
 Essay — A Beautiful School Home.
 Recitation in Concert — Arbor Day.
 Voting upon a School Flower.
 Planting and Dedication of Trees.
 The exercises may include remarks by visitors, these should be brief, marching songs, vine planting, recitations by classes or grades, readings in concert, dialogues, responsive readings and organization of horticultural or school improvement societies.

SELECTIONS.

For the convenience of teachers who have access to libraries the following list of selections, which are not printed in this circular, is given:

The Holly Tree,	Southey.
Woods in Winter,	Longfellow.
Mountain Daisy,	Burns.
Forest Song,	Venable.
Forest Trees,	Cook.
Among the Trees,	Bryant.
In a Forest,	Southey.
Under the Willows,	Lowell.
Little Acorn,	Mrs. Huntington.
Building of the Ship,	Longfellow.
Song to the Trees,	Miller.
In the Sugar Camp,	Alice Cary.
The Planting of the Apple Tree,	Bryant.
The Elm Tree and the Vine,	Bryant.
The Last Walk in Autumn,	Whittier.
The Reaper and the Flowers,	Longfellow.
The Palm Tree,	Whittier.
Under the Violets,	Holmes.
The Willow,	Mrs. Hemans.
To a Pine Tree,	Lowell.
Summer Woods,	Mary Howitt.
Golden Rod,	Elaine Goodale.
Historic Trees,	Delano.
Autumn Woods,	Bryant.
Forest Hymn,	Whittier.
The Lumbermen,	Whittier.
Jack-in-the-Pulpit,	T. B. Aldrich.
Our Almanac,	Sarah Roberts.
The Voice of the Grass,	Charles Dickens.
The Ivy Green,	Jas. Whitcomb Riley.
When the Green Gits Back in the Trees,	St. Nicholas, 1888.
The Story of the Morning Glory Seed,	Bayard Taylor.
The Arab to the Palm,	Shakespeare.
The Greenwood Tree,	Holmes.
Under the Washington Elm, Cambridge,	Longfellow.
An April Day,	

THE SECRET.

We have a secret, just we three,
 The robin and I and the sweet cherry tree;
 The bird told the tree, and the tree told me,
 And nobody knows it but just we three.

But of course the robin knows it best,
 Because he built the — I shan't tell the rest;
 And laid the four little — somethings in it —
 I am afraid I shall tell it every minute.

But if the tree and the robin don't peep,
 I'll try my best the secret to keep;
 Though I know when the little birds fly about,
 Then the whole secret will be out.

FAWN-FOOTED NANNIE.

Fawn-footed Nannie, where have you been?
 "Chasing the sun-beams into the glen,
 Plunging thro' silver lakes after the moon,
 Tracking o'er meadows the footsteps of June."

Fawn-footed Nannie, what did you see?
 "Saw the fays sewing leaves on a tree;
 Saw the waves counting the eyes of the stars,
 Saw cloud-lamps sleeping by sunset's red bars."

Nannie, dear Nannie, take me with you,
 So I may listen and see as you do.
 "Nay; you must borrow my ear and my eye,
 Or music will vanish and beauty will die."

BIRDS IN SUMMER.

How pleasant the life of a bird must be,
 Flitting about in each leafy tree;
 In the leafy trees, so broad and tall,
 Like a green and beautiful palace hall,
 With its airy chambers, light and boon,
 That open to sun, and stars, and moon;
 That open unto the bright blue sky,
 And the frolicsome winds as they wander by!

They have left their nests on the forest-bough,
 Those homes of delight they need not now;
 And the young and the old they wander out,
 And traverse their green world round about.
 And hark! at the top of this leafy hall
 How one to the other in love they call.
 "Come up! come up!" they seem to say.
 "Where the topmost twigs in the breezes sway."

"Come up! come up! for the world is fair
 Where the merry leaves dance in the summer air."
 And the birds below give back the cry,
 "We come, we come to the branches high."
 How pleasant the lives of the birds must be,
 Living in love in a leafy tree!
 And, away through the air, what joy to go;
 And to look on the green, bright earth below!

—MARY HOWITT.

PUSSY WILLOW.

The brook is brimmed with melting snow,
 The maple sap is running,
 And on the highest elm a crow
 His black wings now is sunning.
 A close green bud the Mayflower lies,
 Upon its mossy pillow;
 And sweet and low the south-wind blows,
 And through the brown fields calling goes,
 "Come Pussy! Pussy Willow!"
 Within your close brown wrapper stir;
 Come out and show your silver fur;
 "Come Pussy! Pussy Willow."

Soon red will bud the maple trees,
 The bluebirds will be singing,
 And yellow tassels in the breeze
 Be from the poplars swinging;
 And rosy will the Mayflower lie
 Upon its mossy pillow;
 But you must come the first of all —
 "Come, Pussy!" is the south wind's call —
 "Come Pussy! Pussy Willow!"
 A fairy gift to children dear,
 The downy firstling of the year —
 "Come Pussy! Pussy Willow!"

LAST THREE STANZAS OF "THE BROOK."

I slip, I slide, I gloom, I glance,
 Among my skimming swallows;
 I make the netted sunbeam dance
 Against my sandy shallows.

I murmur under moon and stars
 In brambly wildernesses;
 I linger by my shingly bars;
 I loiter round my cresses;

And out again I curve and flow
 To join the brimming river;
 For men may come and men may go,
 But I go on forever.

—TENNYSON.

THE MOUNTAIN AND THE SQUIRREL.

The Mountain and the Squirrel
 Had a quarrel,
 And the former called the latter "Little Prig."
 Bun replied:

"You are doubtless very big;
 But all sorts of things and weather
 Must be taken in together
 To make up a year,
 And a sphere:
 And I think it no disgrace
 To occupy my place.
 If I'm not so large as you,
 You're not so small as I,
 And not half so spry;
 I'll not deny you make
 A very pretty squirrel track.
 Talents differ; all is well and wisely put;
 If I cannot carry forests on my back,
 Neither can you crack a nut."

—R. W. EMERSON.

Give the children holidays
(and let these be jolly days)
Grant freedom to the children in this joyous spring:
Better men hereafter
Shall we have, for laughter
Freely shouted to the woods, 'till all the echoes ring.
Send the children up
To the high hills top,
Or deep into the wood's recesses,
To woo Spring's caresses.

ARBOR DAY.

Off to the woods! Off to the woods!
Boy's it's a grand new holiday!
Off to the woods for a green young tree,
And we'll plant it ourselves on Arbor Day.

Scamper and frolic! Gather the flowers,
Shouting our merriest roundelay;
The buds shall bloom, and the birds shall sing
In the tree we plant on Arbor Day.

Joy to the thought of our own tree!
Long may its branches shade our way;
This task shall ever our pleasure be,
Planting a tree on Arbor Day.

ROCKED IN A TREE.

Like an eagle proud and free,
Here I sit high in the tree,
Which ever rocks and swings with me.
The wind through Autumn leaves is rattling,
The waves with the pebbly shore are battling;
Spirits of ocean,
Spirits of air,
All are in motion,
Everywhere.
You on the tame ground,
Ever walking round and round,
Little know what joy 'tis to be
Rocked in the air in a mighty tree.

HIE AWAY.

Hie away, hie away!
Over bank and over brae,
Where the cosewood is the greenest,
Where the fountain glistens sheenest,
Where the lady fern grows strongest,
Where the morning dew is longest,
Where the blackcock sweetest sips it:
Hie to haunts right seldom seen,
Lovely, lonesome, cool and green.
Over banks and over brae,
Hie away, hie away!

—SIR WALTER SCOTT.

THE WAY FOR BILLY AND ME.

Where the pools are bright and deep,
Where the gray trout lies asleep,
Up the river and o'er the lea,
That's the way for Billy and me.

Where the blackbird sings the latest,
Where the hawthorn blooms the sweetest,
Where the nestlings chirp and flee,
That's the way for Billy and me.

Where the mowers mow the cleanest,
Where the hay lies thick and greenest;
There to trace the homeward bee,
That's the way for Billy and me.

Where the hazel bank is steepest,
Where the shadow lies the deepest,
Where the clustering nuts fall free,
That's the way for Billy and me.

Why the boys should drive away
Little maidens from their play,
Or love to banter and fight so well,
That's the thing I never could tell.

But this I know, I love to play,
Through the meadow, along the hay;
Up the water and o'er the lea,
That's the way for Billy and me.

—JAMES HOGG.

PLANT A TREE.

He who plants a tree
Plants a hope.
Rootlets up through fibers blindly grope;
Leaves unfold into horizons free.
So man's life must climb
From the clods of time
Unto heavens sublime.
Canst thou prophesy, thou little tree,
What the glory of thy boughs shall be?

He who plants a tree
Plants a joy;
Plants a comfort that will never cloy —
Every day a fresh reality.
Beautiful and strong,
To whose shelter throng
Creatures blithe with song.
If thou couldst but know, thou happy tree,
Of the bliss that shall inhabit thee.

He who plants a tree,
He plants peace.
Under its green curtains jargons cease,
Leaf and zephyr murmur soothingly;
Shadows soft with sleep
Down tired eyelids creep,
Balm of slumber deep.
Never hast thou dreamed, thou blessed tree,
Of the benediction thou shalt be.

He who plants a tree,
He plants youth;
Vigor won for centuries in sooth;
Life of time that hints eternity!
Boughs their strength uprear,
New shoots every year
On old growths appear.
Thou shalt teach the ages, sturdy tree,
Youth of soul is immortality.

He who plants a tree,
He plants love;
Tents of coolness spreading out above
Wayfarers he may not live to see.
Gifts that grow are best;
Hands that bless are blest;
Plant: Life does the rest!
Heaven and earth help him who plants a tree
And his work its own reward shall be.

—LUCY LARCOM.

WHEN THE APPLE BLOSSOMS STIR.

The buds in the tree's heart safely were folded away,
Awaiting in dreamy quiet the coming of May.

When one little bud roused gently and pondered awhile;
"It's dark, and no one would see me," it said with a smile.

"If I before all the others could bloom first in May,
And so be the only blossom, if but for a day,

How the world would welcome my coming,— the first little flower,—
'Twill surely be worth the trouble if but for an hour."

Close to the light it crept softly, and waited till Spring,
With her magic fingers, the door wide open should fling.

Spring came, the bud slipped out softly and opened its eyes
To catch the first loving welcome; but saw with surprise,

That swift through the open doorway, lo, others had burst!
For thousands of little white blossoms had thought to be first."

—ST. NICHOLAS. "Jack-in-the-Pulpit."

MY COUNTRY.

I love my country's pine-clad hills,
Her thousand bright and gushing rills,
Her sunshine and her storms;
Her rough and rugged rocks that rear
Their hoary heads high in the air
In wild fantastic forms.

I love her rivers, deep and wide,
Those mighty streams that seaward glide
To seek the ocean's breast;
Her smiling fields, her pleasant vales,
Her shady dells, her flowery dales,
Her haunts of peaceful rest.

I love her forests, dark and lone,
For there the wild bird's merry tone
Is heard from morn till night,
And there are lovelier flowers, I ween,
Than e'er in eastern land were seen,
In varied colors bright.

Her forests and her valleys fair,
Her flowers that scent the morning air,
Have all their charms for me;
But more I love my country's name,
Those words that echo deathless fame —
"The land of liberty."

—HESPERION.

AMERICA.

- 1 My country 'tis of thee,
Sweet land of liberty,
Of thee I sing:
Land where my fathers died,
Land of the pilgrim's pride;
From every mountain side
Let freedom ring.
- 2 My native country, thee—
Land of the noble free—
Thy name I love:
I love thy rocks and rills,
Thy woods and templed hills:
My heart with rapture thrills
Like that above.
- 3 Let music swell the breeze,
And ring from all the trees
Sweet freedom's song!
Let mortal tongues awake;
Let all that breathe partake;
Let rocks the silence break,—
The sound prolong!
- 4 Our father's God! to Thee,
Author of liberty,
To Thee we sing:
Long may our land be bright
With freedom's holy light:
Protect us by Thy might,
Great God, our King!

THE OAK.

A glorious tree is the old gray oak;
He has stood for a thousand years—
Has stood and frowned
On the trees around,
Like a king among his peers;
As around their king they stand, so now,
When the flowers their pale leaves fold,
The tall trees round him stand, arrayed
In their robes of purple and gold.
He has stood like a tower
Through sun and shower,
And dared the winds to battle;
He has heard the hail,
As from plates of mail,
From his own limbs shaken, rattle;
He has tossed them about, and shorn the tops
(When the storm has roused his might)
Of the forest trees, as a strong man doth
The heads of his foes in fight.
GEORGE HILL: "Fall of the Oak."

FOREST SONG.

A song for the beautiful trees,
A song for the forest grand,
The garden of God's own hand,
The pride of his centuries.
Hurrah! for the kingly oak,
For the maple, the forest queen,
For the lords of the emerald cloak,
For the ladies in living green.

For the beautiful trees a song
The peers of a glorious realm,
The linden, the ash, and the elm,
So brave and majestic and strong.
Hurrah! for the beech tree trim,
For the hickory staunch at core,
For the locust, thorny and grim,
For the silvery sycamore.

A song for the palm, the pine,
And for every tree that grows,
From the desolate zone of snows
To the zone of the burning line.
Hurrah! for the warders proud
Of the mountain-side and vale,
That challenge the lightning cloud,
And buffet the stormy gale.

A song for the forest aisled,
With its Gothic roof sublime,
The solemn temple of Time,
Where man becometh a child,
As he lists to the anthem-roll
Of the wind in the solitude,
The hymn that telleth his soul
That God is the Lord of the wood.

So long as the rivers flow,
So long as the mountains rise,
May the forests sing to the skies,
And shelter the earth below.
Hurrah! for the beautiful trees:
Hurrah! for the forest grand,
The pride of his centuries,
The garden of God's own hand.

PROF. W. H. VENABLE.

This song was written expressly for Cincinnati "Arbor Day," 1882.

FLOWER IN THE CRANNIED WALL.

Flower in the crannied wall,
I pluck you out of the crannies:—
Hold you here, root and all, in my hand,
Little flower—but if I could understand
What you are, root and all, and all in all,
I should know what God and man is.

ALFRED TENNYSON.

THE GREENWOOD TREE.

Under the greenwood tree
Who loves to lie with me,
And tune his merry note
Unto the sweet bird's throat,
Come hither, come hither, come hither;
Here shall we see
No enemy,
But winter and rough weather.

Who doth ambition shun,
And loves to lie in the sun,
Seeking the food he eats,
And pleased with what he gets,
Come hither, come hither, come hither!
Here shall we see
No enemy,
But winter and rough weather.

SHAKESPEARE.

WOODMAN, SPARE THAT TREE!

TEACHERS will please give the pupils the following account of the way in which Mr. Morris came to write the poem, "Woodman Spare that Tree." The poem may then be memorized by all the pupils, and recited or sung on "Arbor Day." Mr. Morris, in a letter to a friend, dated New York, February 1, 1837, gave in substance the following account: Riding out of town a few days since, in company with a friend, an old gentleman, he invited me to turn down a little romantic woodland pass, not far from Bloomingdale. "Your object?" inquired I. "Merely to look once more at an old tree planted by my grandfather long before I was born, under which I used to play when a boy, and where my sisters played with me. There I often listened to the good advice of my parents. Father, mother, sisters—all are gone; nothing but the old tree remains." And a paleness overspread his fine countenance, and tears came to his eyes. After a moment's pause, he added: "Don't think me foolish. I don't know how it is; I never ride out but I turn down this lane to look at that old tree. I have a thousand recollections about it, and I always greet it as a familiar and well-remembered friend." These words were scarcely uttered when the old gentleman cried out, "There it is!" Near the tree stood a man with his coat off, sharpening an ax. "You're not going to cut that tree down, surely?" "Yes, but I am, though," said the woodman. "What for?" inquired the old gentleman, with choked emotion. "What for? I like that! Well, I will tell you. I want the tree for firewood." "What is the tree worth to you for firewood?" "Why, when down, about ten dollars." "Suppose I should give you that sum," said the old gentleman, "would you let it stand?" "Yes." "You are sure of that?" "Positive!" "Then give me a bond to that effect?" We went into the little cottage in which my companion was born, but which is now occupied by the woodman. I drew up the bond. It was signed, and the money paid over. As we left, the young girl, the daughter of the woodman, assured us that while she lived the tree should not be cut. These circumstances made a strong impression on my mind, and furnished me with the materials for the song I send you.

Woodman, spare that tree!
Touch not a single bough!
In youth it sheltered me,
And I'll protect it now.
'T was my forefather's hand
That placed it near his cot;
There, woodman, let it stand;
Thy ax shall harm it not!

That old familiar tree,
Whose glory and renown
Are spread o'er land and sea,—
And wouldst thou hack it down?
Woodman, forbear thy stroke!
Cut not its earth-bound ties:
O, spare that aged oak,
Now towering to the skies!

When but an idle boy
I sought its grateful shade:
In all their gushing joy,
Here, too, my sisters played.
My mother kissed me here:
My father pressed my hand—
Forgive the foolish tear:
But let that old oak stand.

My heart-strings round thee cling,
Close as thy bark, old friend;
Here shall the wild-bird sing,
And still thy branches bend.
Old tree! the storm still brave!
And, woodman, leave the spot;
While I've a hand to save,
Thy ax shall harm it not.

—GEORGE P. MORRIS.

The following lines from William Cullen Bryant's poem, "An Indian at the Burial Place of his Fathers," contain a warning that should be heeded by the people of Wisconsin:

But I behold a fearful sign,
To which the white man's eyes are blind.
Before these fields were shorn and tilled,
Full to the brim our rivers flowed,
The melody of waters filled
The fresh and boundless wood.
And torrents dashed and rivulets played,
And fountains sported in the shade.
These grateful sounds are heard no more,
The springs are silent in the sun,
The rivers, by the blackened shore,
With lessening currents run;
The realm our tribes are crushed to get
May be a barren desert yet.

SONG ON MAY MORNING.

Now the bright morning star, Day's harbinger,
Comes dancing from the east, and leads with her
The flowery May, who from her green lap throws
The yellow cowslip and the pale primrose.
Hail bounteous May, that dost inspire
Mirth and youth and warm desire!
Woods and groves are of thy dressing;
Hill and dale doth boast thy blessing.
Thus we salute thee with our early song,
And welcome thee, and wish thee long.

JOHN MILTON.

SUNTHIN' IN THE PASTORAL LINE.

I, country-born an' bred, know where to find
Some blooms that make the season suit the mind,
An' seem to match the doubtin' blue-bird's notes,—
Half-vent 'rin' liverworts in furry coats,
Bloodroots, whose rolled-up leaves ef you occur,
Each on 'em's cradle to a baby-pearl,—
But these are jes' spring's pickets; sure ez sin,
The rebbie frosts 'll try to drive 'em in;
For half our May 's so awfully like May n't,
't would rile a Shaker or an evrige saint;
Though I own up I like our back'ard springs
That kind o' haggle with their greens an' things,
An' when you 'most give up, 'thout more words
Toss the fields full o' blossoms, leaves, an' birds:
That's Northun natur', slow an' apt to doubt,
But when it *does* git stirred, ther' 's no gin-out!

Just come the blackbirds clatt'rin' in tall trees,
An' settlin' things in windy Congresses,—
Queer politicians, though, for I'll be skinned
Ef all on 'em don't head against the wind.
'Fore long the trees begin to show belief,—
The maple crimson to a coral-reef,
Then saffern swarms swing off from all the willers
So plump they look like yaller caterpillars,
Then gray bossches 'nits leetle hands unfold
Softer 'n a baby's be at three days old:
That 's robin-redbreast 's almanick; he knows
That arter this ther' 's only blossoms-snows;
So, choosin' out a handy crotch an' spouse,
He goes to plast'rin' his adobe house.

Then seems to come a hitch,—things lag behind,
Till some fine mornin' Spring makes up her mind,
An' ez, when snow-swelled rivers cresh their dams
Heaped-up with ice thet dovetails in an' jama,
A leak comes spirtin' thru some pin-hole cleft,
Grows stronger, fiercer, tears out right an' left,
Then all the waters bow themselves an' come,
Suddin, in one gret slope o' sheddin' foam,
Jes' so our spring gits everythin' in tune
An' gives one leap from April into June:
Then all comes crowdin' in; afore you think,
Young oak-leaves mist the side-hill woods with pink;
The catbird in the laylock-bush is loud:
The orchards turn to heaps o' rosy cloud;
Red-cedars blossom tff, though few folks know it,
An' look all dipt in sunshine like a poet;
The lime-trees pile their solid stacks o' shade
An' drows'e 'v summer with the bees' sweet trade;
In illum-shrouds the flashin' hangbird clings
An' for the summer vy'ge his hammock slings;
All down the loose-walled lanes in robin' bowers
The barb'ry droops its strings o' golden flowers.

—LOWELL—From the *Biglow Papers*.

ARIEL'S SONG.

Where the bee sucks there suck I;
In a cowslip's bell I lie;
There I couch when owls do cry;
On the bat's back I do fly
After summer merrily.
Merrily, merrily, shall I live now,
Under the blossom that hangs on the bough.

—SHAKESPEARE.

A SOUL IN GRASS AND FLOWERS.

And what is so rare as a day in June?
Then, if ever, come perfect days;
Then Heaven tries the earth if it be in tune,
And over it softly her warm ear lays;
Whether we look, or whether we listen,
We hear life murmur, or see it glisten;
Every clod feels a stir of might,
An instinct within it that reaches and towers,
And, groping blindly above it for light,
Climbs to a soul in grass and flowers;
The flush of life may well be seen
Thrilling back over hills and valleys;
The cowslip startles in meadows green,
The buttercup catches the sun in its chalice,
And there's never a leaf nor a blade too mean
To be some happy creature's palace.

Now the heart is so full that a drop overfills it,
We are happy now because God wills it;
No matter how barren the past may have been,
'Tis enough for us now that the leaves are green;
We sit in the warm shade and feel right well
How the sap creeps up and the blossoms swell;
We may shut our eyes, but we cannot help knowing
That skies are clear and grass is growing;
The breeze comes whispering in our ear,
That dandelions are blossoming near,
That maize has sprouted, that streams are flowing,
That the river is bluer than the sky,
That the robin is plastering his house hard by;
And if the breeze kept the good news back,
For other couriers we should not lack.

Joy comes, grief goes, we know not how;
Everything is happy now.
Everything is upward striving;
'Tis as easy now for the heart to be true
As for grass to be green, or skies to be blue,—
'Tis the natural way of living.

—LOWELL's *Vision of Sir Launfal*.

THE COUNTRY CHILDREN.

I can see the happy children
As they wander through the grasses,
Of the fresh and dewy pastures,
Or the tangled forest passes.
I can track them as they wander
By the trail of morning glories;
I can read their happy footprints;
I can spell their pleasant stories.

Oh! I know the paths of children—
Up the hills and down the valleys;
Buttercups and faded daisies
Mark their sorties and their sallies.
By the butternuts and beeches
I can mark their resting places,
And I know the mossy brook-sides,
And the wide, green, open spaces.

Where the wild, white plum tree blossoms,
Where the grape vine swings and toases,
Where the plumes of scarlet sumach
Wave among the wayside mosses,
Where the golden rod in autumn
Flames among the hazel bushes—
There the conquering army wanders,
There the scouting party pushes.

Oh, but they are kings and nobles
As they wander thus together;
Cloth of Gold is all the common
To their feet in summer weather,
Up and down in field and meadow
I can see their glowing faces,
And by scarlet leaves and berries
I can mark their resting places.

—HATTIE TYNG GRISWOLD.

Columbus, Wis.

THE COMING OF THE SPRING.

There's something in the air
That's new and sweet and rare,—
A scent of summer things,
A whirr as if of wings.

There's something, too, that's new
In the color of the blue
That's in the morning sky,
Before the sun is high.

—NORA PERRY.

QUOTATIONS.

We have known men upon whose grounds were old, magnificent trees of centuries growth, lifted up into the air with vast breadth, and full of twilight at mid-day—who cut down all these mighty monarchs and cleared the ground bare; and then, when the desolation was completed and the fierce summer sun gazed full into their faces with its fire, they bethought themselves of shade, and forthwith set out a generation of thin, shadowless sticks.

—BEROBER.

It never rains roses: when we want
To have more roses we must plant more trees.

—GEORGE ELIOT.

"There is an Arabian proverb that, with the planting of a tree, a blessing comes to him who drops the seed."

"Jock, when ye hae naething else to do, ye may be sticking in a tree; it will be growing, Jock, when ye're sleeping."

—HIGHLAND LAIRD OF SCOTLAND.

I shall speak of trees, as we see them, love them, adore them in the fields where they are alive, holding their green sunshades over our heads, talking to us with their hundred thousand whispering tongues, looking down on us with that sweet meekness which belongs to huge but limited organisms—which one sees most in the patient posture, the outstretched arms, and the heavy drooping robes of these vast beings, endowed with life, but not with soul—which outgrow us and outlive us, but stand helpless, poor things—while nature dresses and undresses them.

—HOLMES.

Give fools their gold and knaves their power;
Let fortune's bubbles rise and fall;
Who sows a field, or trains a flower,
Or plants a tree, is more than all.

For he who blesses most is blest;
And God and man shall own his worth,
Who toils to leave as his bequest,
An added beauty to the earth.

And, soon or late, to all that sow,
The time of harvest shall be given;
The flowers shall bloom, the fruit shall grow,
If not on earth, at last in heaven.

—WHITTIER.

The wealth, beauty, fertility, and healthfulness of the country largely depend upon the conservation of our forests and the planting of trees. My indignation is yearly aroused by the needless sacrifice of some noble oak or elm, and especially of the white pine, the grandest trees in our woods, which I would not exchange for oriental palms.

—WHITTIER.

When we plant a tree, we are doing what we can to make our planet a more wholesome and happier dwelling-place for those who come after us, if not for ourselves. As you drop the seed, as you plant the sapling, your left hand hardly knows what your right hand is doing. But Nature knows and in due time the Power that sees and works in secret will reward you openly.

—HOLMES.

You have been warned against hiding your talent in a napkin; but if your talent takes the form of a maple-keg or an acorn, and your napkin is a shroud of the apron that covers the lap of the earth, you may hide it there, unblamed; and when you render in your account you will find that your deposit has been drawing compound interest all the time.

—HOLMES.

I have written many verses, but the best poems I have produced are the trees I planted on the hill-side which overlooks the broad meadows scalloped and rounded at their edges by loops of the sinuous Housatonic. Nature finds rhymes for them in the recurring measures of the seasons. Winter strips them of their ornaments and gives them as it were, in prose translation, and summer reclothes them in all the splendid phrases of their leafy language.

—HOLMES.

The trees may outlive the memory of more than one of those in whose honor they were planted. But if it is something to make two blades of grass grow where only one was growing, it is much more to have been the occasion of the planting of an oak which shall defy twenty scores of winters, or of an elm which shall canopy with its green cloud of foliage half as many generations of mortal immortality.

—HOLMES.

There is something nobly simple and pure in a taste for the cultivation of forest trees. It argues, I think, a sweet and generous nature to have this strong relish for the beauties of vegetation, and this friendship for the hardy and glorious sons of the forest. There is a grandeur of thought connected with this part of rural economy. * * * He who plants an oak looks forward to future ages and plants for posterity. Nothing can be less selfish than this.

—IRVING.

To me the meanest flower that blows can give
Thoughts that do often lie too deep for tears.

—WORDSWORTH.

To him who in the love of nature holds
Communion with her visible forms, she speaks
A various language; for his gayer hours
She has a voice of gladness, and a smile
And eloquence of beauty, and she glides
Into his darker musings, with a mild
And healing sympathy, that steals away
Their sharpness, ere he is aware.

—BRYANT.

Plant in the springtime the beautiful trees,
So that in future each soft summer breeze,
Whispering through tree-tops may call to our mind,
Days of our childhood then left far behind.

Plant blessings and blessings will bloom,
Plant hate and hate will grow,
You can sow to-day, to-morrow shall bring,
The blossoms that prove what sort of thing
Is the seed—the seed that you sow.

When you have finished a building, or any other undertaking of the like nature, it immediately begins to decay on your hands; you see it brought to its utmost point of perfection, and from that time hastening to its ruin. On the contrary, when you have finished planting a tree it is still at greater degrees of perfection, as long as you live, and appears more delightful in each succeeding year than it did in the foregoing.

—ADISON, *Spectator*.

The groves were God's first temples. Ere man learned
To hew the shaft and lay the architrave
And spread the roof above them—ere he framed
The lofty vault to gather and roll back
The sound of anthems, in the darkling wood.
Amidst the cool and silence, he knelt down
And offered to the Mightiest solemn thanks and supplications.

—BRYANT.

If I were a flower, I'd hasten to bloom
And make myself beautiful all the day through
With drinking the sunshine, the wind, and the rain—
Oh, if I were a flower, that's what I'd do!

"He who plants trees loves others besides himself."

"The tree of the field is man's life."—BIBLE.

Let dead names be eternized by dead stone,
Whose substance time can not increase nor mar;
Let living names by living shafts be known,
That feel the influence of sun and star.
Plant thou a tree, whose griefless leaves shall sing
Thy deed and thee, each fresh, unfolding spring.

—EDITH M. THOMAS.

It is better to know the habits of one plant than the names of a thousand; and wiser to be happily familiar with those that grow in the nearest field, than arduously cognizant of all that plume the isles of the Pacific, or illumine the Mountains of the Moon.

—RUSKIN.

The project of connecting the planting of trees with the names of authors is a beautiful one, and one certain to exert a beneficial influence upon the children who participate in these exercises. The institution of an "Arbor Day" is highly commendable from its artistic consequences, and can not fail to result in great benefit to the climate and to the commercial interests of the country when it becomes an institution of general adoption.

—PROF. B. MANN.

The trees which the children plant, or which they assist in dedicating, will become dearer to them as year after year rolls on. As the trees grow, and their branches expand in beauty, so will the love for them increase in the hearts of those by whom they were planted or dedicated, and long before the children reach old age they will almost venerate these green and living memorials of youthful and happy days; and as those who have loved and cared for pets will ever be the friends of our dumb animals, so will they ever be the friends of our forest trees. From the individual to the general, is the law of our nature. Show us a man who in childhood had a pet, and we'll show you a lover of animals. Show us a person who in youth planted a tree that has lived and flourished and we'll show you a friend of trees and of forest culture.

To arrest a pestilence by quarantine, the state sternly interrupts trade, travel, and pleasure; but the far greater mortality from the increasing fickleness and cruelty of our climate can be arrested by the gentlest means. It is needed only that our broad states shall have one-fourth or one-fifth of their surface covered with trees—which, by the way, may be so distributed as to increase the value and producing power of lands. It is needed only that the road sides shall be well planted, that all hills shall be fixed forever with woods, that the rivers shall be fringed with appropriate species, and that woods shall be wood, in fact, and not struggling collections of the dying monarchs of the primeval forest. Along with a better climate will come not only the better health and longer lives, but forgotten springs will gush anew from the hills, the attenuated streams will fill their banks again—and yield us a better fish supply—and will cease to drown the valleys with floods after every rain.

DANIEL MILLIKIN

THE TALK OF THE TREES THAT STAND IN THE VILLAGE STREET.

How still it is! Nobody in the village street, the children all at school, and the very dogs sleeping lazily in the sunshine. Only a soft wind blows lightly through the trees, lifting the great fans of the horse chestnut, tossing the slight branches of the elm against the sky like single feathers of a great plume, and swinging out fragrance from the heavy-hanging linden-blossoms.

Through the silence there is a little murmur, like a low song. It is the song of the trees; each has its own voice, which may be known from all others by the ear that has learned how to listen.

The topmost branches of the elm are talking of the sky,—of those highest white clouds that float like tresses of silver hair in the far blue, of the sunrise gold and the rose-color of sunset that always rest upon them most lovingly. But down deep in the heart of the great branches you may hear something quite different, and not less sweet.

"Peep under my leaves," sings the elm-tree, "out at the ends of my broadest branches. What hangs there so soft and gray? Who comes with a flash of wings and gleam of golden breast among the dark leaves, and sits above the gray hanging nest to sing his full, sweet tune? Who worked there together so happily all the May-time, with gray honeysuckle fibres, twining the little nest, until there it hung securely over the road, bound and tied and woven firmly to the slender twigs? so slender that the squirrels even cannot creep down for the eggs; much less can Jack or Neddy, who are so fond of birds'-nesting, ever hope to reach the home of our golden robin.

"There my leaves shelter him like a roof from rain and from sunshine. I rock the cradle when the father and mother are away and the little ones cry, and in my softest tone I sing to them; yet they are never quite satisfied with me, but beat their wings, and stretch out their heads, and cannot be happy until they hear their father.

"The squirrel, who lives in the hole where the two great branches part, hears what I say, and curls up his tail, while he turns his bright eyes towards the swing nest which he can never reach."—JANE ANDREWS.—*From the Story Mother Nature Told.*

THE LITTLE LEAF.

Once on a time a little leaf was heard to sigh and cry, as leaves often do when a gentle wind is about. And the twig said:

"What is the matter, little leaf?"

"The wind," said the leaf, "just told me that one day it would pull me off, and throw me down to the ground to die!"

"The twig told it to the branch on which it grew, and the branch told it to the tree. And when the tree heard it, it rustled all over, and sent word back to the leaf:

"Do not be afraid, hold on tightly, and you shall not go till you want to." And so the leaf stopped sighing, and went on rustling and singing. And so it grew all summer long till October. And when the bright days of autumn came, the little leaf saw all the leaves around becoming very beautiful. Some were yellow and some were scarlet, and some were striped with both colors. Then it asked the tree what it meant. And the tree said:

"All these leaves are getting ready to fly away, and they have put on these beautiful colors because of joy."

Then the little leaf began to want to go, and grew very beautiful in thinking of it, and when it was very gay in color, it saw that the branches of the tree had no color in them, and so the leaf said:

"O, branch, why are you lead-colored and we golden?"

"We must keep on our work clothes," said the tree, "for our life is not done yet, but your clothes are for a holiday, because your task is over."

Just then a little puff of wind came and the leaf let go without thinking of it, and the wind took it up and turned it over and over, and then whirled it like a spark of fire in the air, and let it fall gently down under the edge of the fence among hundreds of leaves, and it fell into a dream and never waked up to tell what it dreamed about.

—BRECHER.

THE FOREST FLOWERS.

Our forests are fast disappearing. In their sheltering shade and the rich mold of their annually decaying leaves, the greater number of our loveliest plants are found; and when the ax comes, that cruel weapon that wars upon nature's freshness, and the noble oak, the elm, the beech, the maple, and the tulip-tree fall with a loud crash in the peaceful solitude, even the very birds can understand that a floral death-knell sounds through the melodious wilderness.

A number of our choicest plants are threatened with extinction; for as the woods are cleared away these tender offsprings, the pretty flowers, which we so dearly cherish, will perish utterly. It is, therefore, well to prevent, as far as possible, the destruction of our native forests, as well as to plant forest trees, if for no other purpose than the preservation of the little helpless, blooming beauties that adorn our woodland shades.

GUSTAVUS FRANKENSTEIN.

I thank heaven every summer's day of my life that my lot was humbly cast within the hearing of romping brooks, and beneath the shadow of oaks, and away from all the tramp and bustle of the world, into which fortune has led me in these latter years of my life. I delight to steal away for days and for weeks together, and bathe my spirit in the freedom of the old woods, and to grow young again lying upon the brookside, and counting the white clouds that sail along the sky, softly and tranquilly, even as holy memories go stealing over the vault of life.

DONALD G. MITCHELL.

ARBOR DAY.

Written in 1885.

Teachers can easily interest their pupils in adorning the school grounds. With proper prearrangement as to the selection and procuring of trees, vines, or shrubs, Arbor Day may accomplish wonders. Many hands will make merry, as well as light, the work. Such a holiday will be an attractive occasion of social enjoyment and improvement. The parents should be persuaded to approve and patronize the plan. It tends to fraternize the people of a district, when they thus meet on common ground, and young and old work together for a common object, where all differences of rank, or sect, or party, are forgotten. The plantings and improvements thus made will be sure to be protected. They will remain as silent, but effective teachers of the beautiful to all the pupils, gradually improving their taste and character. Such work done around the school naturally extends to the homes. You improve the homes by improving the schools as truly as you improve the schools by improving the homes. "The hope of America is the homes of America." It has long been my ambition to improve the homes and home-life of our industrial classes and help them to realize that the highest privilege and central duty of life is the creation of happy homes, for the home is the chief school of virtue, the fountain-head of individual and national strength and prosperity. It is a worthy ambition to surround one's home and children with such scenes and influences as shall make the every-day life and labors brighter and happier, and help one to go sunny and singing to his work. Our youth should early share in such efforts for adorning the surroundings of their homes, and planting trees by the wayside. How attractive our roads may become by long avenues of trees. This is beautifully illustrated in many countries of Europe.

Arbor Day will become one of the institutions of the country, in which our boys and girls will take an eager share and genuine pleasure, and thus gain a liking for trees that will never be effaced. Nebraska has the honor of originating Arbor Day. Some ten years ago, at the request of its State Board of Agriculture, the governor appointed the second Wednesday in April as the day to be devoted to economic tree-planting, and it is claimed that twelve millions of trees were planted on that day. The successive governors have continued thus to recognize this day. The schools last spring adopted the "Cincinnati plan" of planting "memorial trees."

The recent Spring floods and Summer droughts in Indiana, Ohio, and elsewhere, increasingly and now alarmingly destructive, are calling public attention to the cause and remedy as never before. The denudation of the hills and mountain sources of the springs is the leading cause of these freshets, and these can be remedied only by the extensive re-forestation of such lands. This great result, which must be the work of time, will be best accomplished by interesting the young, as well as the old, in tree-planting. The Arbor Day in schools will do immense good in this direction. We need to popularize and diffuse the sentiment of trees. This will best secure their propagation and protection. The frequency of forest fires is the common objection to economic tree-planting. But let the sentiment of trees be duly cultivated, and they will be regarded as our friends, as is the case in Germany. The public need to understand that the interests of all classes are concerned in the conversation of forests. In Germany, Switzerland, Sweden and other European countries, this subject is so taught in their schools that the people generally appreciate the value of trees and the need of protecting them. Hence an enlightened public sentiment is a better guardian of their forests than the national police.

HON. B. G. NORTHBROP.

THE PINE TREE.

The tremendous unity of the pine absorbs and moulds the life of a race. The pine shadows rest upon a nation. The northern peoples, century after century, lived under one or other of the two great powers of the pine and the sea, both infinite. They dwelt amidst the forests or they wandered on the waves, and saw no end nor any other horizon. Still the dark, green trees, or the dark, green waters jagged the dawn with their fringe or their foam. And whatever elements of imagination, or of warrior strength, or of domestic justice were brought down by the Norwegian or the Goth against the dissoluteness or degradation of the south of Europe were taught them under the green roofs and wild penetrations of the pine.

RUSKIN: "Modern Painters"

Professor Sargent, who undertook ten years ago to ascertain the condition of the forests of the United States, estimated the yearly value of the lumber, fuel, and other forest products at that time as more than \$700,000,000. Their value is now, probably, at least \$1,000,000,000, a sum that equals the value of wheat, oats, barley, rye, potatoes, cotton and tobacco taken together, and is greater than that of all our exports and more than ten times as great as the produce of our mines of silver and gold. It is estimated that the census report will show that we consumed last year, of sawn lumber alone, 30,000,000,000 square or superficial feet. But such figures by themselves are meaningless. Let us consider, then, that this amount of lumber would load a train of cars 25,000 miles long, or sufficient to encircle the earth at the equator. And now, if we add to the sawn lumber, which is only a small part of the total produce of the forests, the timber, the railroad ties, the telegraph poles, the posts for fences, we shall have a train of 73,000 miles long. If to this we would add again the wood cut for fuel and for mining purposes, we shall have a train 288,000 miles in length, or long enough to reach from the earth to the moon and almost enough then left to encircle the globe twice! The weight of these forest products would be enough to load five hundred thousand (500,000) ships of one thousand (1,000) tons each!—ARBOR DAY MANUAL.

The people of ancient Greece believed that in every tree dwelt a protecting nymph, or dryad. These dryads were thought to perish with the trees which had been their abodes, and with which they had come into existence. To willfully destroy a tree was, therefore, an impious act, and was often severely punished.

DESTRUCTION OF THE FORESTS.

Some of the figures presented to the Forestry Congress, recently held at Philadelphia, are, to say the least, impressive. From them it appears that the woodland of the United States now covers 450,000,000 acres, or about twenty-six per cent. of the area. Of this not less than 25,000,000 acres are cut over annually, a rate of destruction that will bring our forests to an end in eighteen years, if there is no replanting. It was also stated that while the wood growing annually in the forests of the United States amounts to 12,000,000,000 cubic feet, the amount cut annually is 24,000,000,000 cubic feet, and this does not include a vast amount destroyed by fire. The country's supply of timber, therefore, is being depleted at least twice as fast as it is being reproduced, and this is another way of showing that a timber famine is approaching rapidly. It will be very serious when it comes, and it will not be relieved very easily or very soon.

The service of the trees to us begins with the cradle and ends with the coffin. But it continues through our lives, and is of almost unimaginable extent and variety. In this country our houses and their furniture and the fences that inclose them are largely the product of the trees. The fuel that warms them, even if it be coal, is the mineralized wood of past ages. The frames and handles of agricultural implements, wharves, boats, ships, India-rubber, guma, bark, cork, carriages and railroad cars and ties—wherever the eye falls it sees the beneficent service of the trees. Arbor Day recalls this direct service on every hand, and reminds us of the indirect ministry of trees as guardians of the sources of rivers—the great forests making the densely shaded hills, covered with the accumulating leaves of ages, huge sponges from which trickle the supplies of streams. To cut the forests recklessly is to dry up the rivers. It is a crime against the whole community, and scholars and statesmen both declare that the proper preservation of the forests is the paramount public question. Even in a mercantile sense it is a prodigious question, for the estimated value of our forest products in 1880, was \$800,000,000, a value nearly double that of the wheat crop, ten times that of gold and silver, and forty times that of our iron ore.

Arbor Day will make the country visibly more beautiful every year. Every little community, every school district, will contribute to the good work. The school-house will gradually become an ornament, as it is already the great benefit of the village, and the children will be put in the way of living upon more friendly and intelligent terms with the bountiful nature which is so friendly to us.

—GEORGE WILLIAM CURTIS.

The objects of the restoration of the forests are as multifarious as the motives which have led to their destruction, and as the evils which that destruction has occasioned. The planting of the mountains will diminish the frequency and violence of river inundations; prevent the formation of torrents; mitigate the extremes of atmospheric temperature, humidity, and precipitation; restore dried-up springs, rivulets, and sources of irrigation; shelter the fields from chilling and from parching winds; prevent the spread of miasmatic effluvia; and, finally, furnish an inexhaustible and self-renewing supply of material indispensable to so many purposes of domestic comfort, to the successful exercise of every art of peace, every destructive energy of war.

—GEORGE P. MARSH.

EFFECTS OF THE CUTTING OF FORESTS ON WATER SUPPLY OF RIVERS.

Upon the territory of the commune of Labrugniere (a village of France) there is the forest of Montant, containing 4,594 acres, and owned by the commune. At the entrance of the forest, and along this brook, will be found several fulling mills, each requiring eight-horse power, and moved by water-wheels which work the beltiers of the machines. The commune of Labrugniere had long been noted for its opposition to the forest regulations, and the cutting of wood, together with the abuse of pasturage, had converted the forest into an immense waste, so that this great property would hardly pay cost of guarding it and afford a meager supply of wood for its inhabitants. While the forest was thus ruined and the soil denuded, the waters after each heavy rain swept down through the valley, bringing with them great quantities of gravel, the debris of which still encumber the channels of the stream. The violence of these floods was sometimes so great that they were compelled to stop the machines for some time. But in the summer-time another inconvenience made its appearance. Little by little the drought extended, the flow of waters became insignificant, the mills stood idle, or could run only occasionally for a short time.

About 1840 the municipal authorities began to inform their population relative to their true interests, and under the protection of better supervision the work of replanting has been well managed, and the forest is to-day in successful growth. In proportion as the replanting progressed, the precarious use of the mills ceased, and the regulation of the water-courses was totally modified. They now no longer swell into sudden and violent floods, compelling the machines to stop; but the rise did not begin until six or eight hours after the rains began, they rose steadily to their maximum, and then subsided in the same manner. In short, they were no longer obliged to stop work, and the waters were enough to run two machines and sometimes three. This example is remarkable in this, that all the other circumstances had remained the same, and therefore, we could only attribute to the reforesting the changes that occurred, namely, diminution of the flood at the time of rain and an increase in its flow during common times.

—M. CANTERLIN, sub-inspector of forests, in *Ami des Sciences*.

Germany has made great progress in tree-planting. It was a part of the national policy of Frederick the Great by which Germany was raised from a small power to a great one. Where once the sandy deserts would not nourish a flock of goats, vast armies have been maintained, and regiments of hardy soldiers have poured forth from the fertile soil, where two hundred years ago the thorn and the thistle overspread an impoverished land.

ISLAND OF TERNATE.

The effects of forests upon the general healthfulness of the state is great. The philosopher, Boyle, long since stated that in the Dutch East Indian island of Ternate, long celebrated for its beauty and healthfulness, the clove trees grew in such plenty as to render their product almost valueless. To raise the price of the commodity most of the spice forest was destroyed. Immediately the island—previously cool, healthy and pleasant—became hot, dry, and sickly, and unfit for human residence. It is well known that the general clearing-away of the forests in this country has had a tendency to raise the temperature in summer.—*New York Report of the Commission of State Parks*.

THE SCRUB OAK'S SOLILOQUY.

"I wonder what is coming to pass! Ever since there has been a school-house here—and much longer—I have stood alone doing my best to shelter this patch of sand and burrs, called by courtesy a 'school ground.' Yes, I have done my best because I pity the children—poor little creatures! To think of compelling them to spend the best years of their lives amid such barren, unsightly surroundings! Most people furnish better lots for their pigs to run in.

"But I've not passed my time in useless repining; I have often stretched my arms until they trembled and it seemed they must break—to support swings and afford as ample shade as possible for playhouses, and marble alleys. Again I have allowed myself to be almost robbed of my pretty green leaves (about all the beauty that a scrub oak has to boast of) to provide material for wreaths, crowns and decorations for those dingy walls in there. But there is one thing I never did do and never will, and that is to furnish hickory withes to torture tender backs.

"But, as I said, what is coming to pass?

"For a week back the teacher and scholars have spent every spare minute pulling up sand burrs, filling in holes, piling away sticks, stones and fire wood and carting rich looking soil and making it into round, square and star shaped mounds; and yesterday they dug holes—a good many and deep ones too—and put in good earth and water, and finally set in little trees. I was never so surprised.

"There are maples on the south and Arbor Vitae on the east sides of the grounds. Well, I hope I shall stand here to see long shadows cast by the former and a well kept hedge of the latter grow in. I shall never be jealous though they outlive me in both beauty and usefulness.

"Ah, here come some of my little curly-headed girls to rest under my shade. A down on the old gnarled roots they sit. What is this they are saying?

"To-morrow is Arbor Day." I wonder what that is. "Going to plant roots and flower seeds in those mounds, climbing roses under the south windows, lilacs at the west and a honeysuckle at the east corner there? There will be a crowd of people and the children will speak and sing about trees and flowers and—" but they are off again.

"Well, well! I never expected to see this day."

VELMA MAY CALDWELL.

Sun Prairie, Wis.

THE OLD TAMARACK.

'Twas out at the end of the cabin,
In the sweet days long, long ago,
That my father planted a tamarack,
And bade me assist it to grow.

At morning, noon and at evening
I tended and watched it with care;
Nor dreamed what a tree of the forest
Would one day tower there.

Long years he has slept 'neath the wild flowers,
That bloom on Virginia's sod;
The cabin has crumbled to ruins,
But the tamarack still points up to God.

Little birds build their nests in its branches,
Other children sing songs at its root,
As careless of time and its changes
As I, when it was a shoot.

Plant a tree, and when you are sleeping,
A monument grand it will be,
Outrivaling granite or marble;
Be advised, my friend, plant a tree.

VELMA MAY CALDWELL.

Sun Prairie, Wis.

NOTES.

Arbor Day is not a legal holiday. Teachers are requested to substitute Arbor Day exercises for the regular class work.

A pamphlet "Arbor Day Leaves," which gives appropriate selections and songs for these exercises can be obtained by sending ten cents in stamps to the American Book Company, Chicago, Ill.

The "Arbor Day Manual" is a handsome, octavo volume of 450 pages, containing a great variety of selections for Arbor Day programmes, and a number of songs set to music. It also contains a number of colored engravings. The larger school libraries should contain a copy of it. The publishers, Weed, Parsons & Co. Albany, N. Y., will furnish one copy for \$2.50, postage paid, or will send two copies to one address for \$4.

Teachers are requested to send a statement of their Arbor Day exercises to the state superintendent, or, better still, to have an account published in the local paper and send a copy of the paper.

Wisconsin State Horticultural Society.

SECRETARY'S OFFICE.

EVANSVILLE, Wis., MARCH 21, 1892.

To Superintendents, Officers and Teachers of our Public Schools:

The Wisconsin State Horticultural Society most heartily approves of the observance of Arbor Day in all of the district schools of our state. As a means of expressing its sympathy with the good work, the following circular is submitted as an accompaniment to the one issued by the Department of Public Instruction.

To aid in the selection of proper trees and shrubs for planting on school grounds, the Society recommends the following list to select from and gives preference in the order named. From long experience we have found that nursery grown trees, or those which have once or twice been transplanted are preferable, and any nurseryman in our state will sell for this purpose at wholesale prices. But if not convenient to get nursery trees go to the woods and dig thrifty growing deciduous trees of our common varieties. We do not recommend taking evergreens from the forest unless they are very small, and those are not desirable.

LIST OF TREES AND SHRUBS FOR PLANTING.

Evergreens.—Norway Spruce, White Spruce, White Pine, Balsam Fir, Austrian Pine, Scotch Pine, American Arbor Vitæ.

Specially adapted to smaller grounds.—Siberian Arbor Vitæ, Hemlock Spruce, Red Cedar, Dwarf Pine, Red or Norway Pine.

Deciduous Trees.—White Elm, Hard or Sugar Maple, Basswood or Linden, Black Walnut, White Ash, Green Ash, Cut-Leaf or Weeping Birch, White or Canoe Birch, Wild Black Cherry, American Larch, Box Elder or Ash-Leaf Maple, Wisconsin Weeping Willow.

Adapted to smaller grounds.—Hackberry, American and European Mountain Ash, Oak-Leaf Mountain Ash, Black Alder.

Ornamental Hardy Shrubs.—White, Purple and Persian Lilacs, Snowball, Tartarian Honeysuckle, Syringa, Ninebark, Purple Leaf Berberry, Wigelia Rosea, Scarlet Dogwood, European Strawberry Tree.

Hardy Climbers.—American Ivy or Virginia Creeper, Scarlet Honeysuckle, Fragrant Honeysuckle, Virgin's Bower, Bitter Sweet.

OF INTEREST TO PUPILS!!

The teacher is requested to call the attention of the pupils to the following

PROPOSED PLANT DISTRIBUTION OF THE WISCONSIN STATE HORTICULTURAL SOCIETY:

With the aim of promoting the observance of Arbor Day in the district schools of Wisconsin, of encouraging in the young a love for horticulture and of stimulating the culture of small fruits in private gardens the Wisconsin State Horticultural Society proposes to donate six strawberry plants of an approved variety to each of certain pupils residing in any school district of Wisconsin in which Arbor Day shall be observed in the year 1892, in accordance with the plan recommended in the accompanying Arbor Day circular—the proposed distribution of plants to be subject to the following conditions:

CONDITION OF THE PLANT DISTRIBUTION.

(1). The distribution of plants will be made only in such district schools as shall observe Arbor Day, after the plan proposed in the accompanying Arbor Day circular, or after a similar plan; and in such schools only upon condition that the teacher shall volunteer to act as the agent of this society in determining the eligibility of applicants for plants, in collecting and forwarding transportation fees, with a list of the names of the applicants entitled to receive plants and in attending to the distribution of the plants when the same shall be received. The teacher may depute this work to some responsible pupil or other person, provided he or she shall exercise care that it is properly done.

(2). A transportation fee of five cents will be required of each eligible applicant for plants, this fee to be paid to the teacher, or person appointed by him or her to make such collection, and the teacher will forward the amount thus received, in postage stamps (less two cents which may be retained for posting letter) to Carl H. Potter, Corresponding Secretary, Wisconsin State Horticultural Society, Madison, Wis., within five days succeeding Arbor Day.

(3). No pupil shall be entitled to receive plants who has not attained the age of twelve years, and who has not attended school within the district in which he or she resides for at least four consecutive weeks during the current school year.

(4). Not more than two pupils belonging to any one family shall be entitled to receive plants.



(5). No pupil shall be entitled to receive plants who does not agree to plant and care for the same in accordance with the directions accompanying the plants.

Every pupil who receives plants will be expected to write on a postal card, during the first week in October, 1892, the number of plants that have lived through the season, and the number of young plants that have grown from the same, and to direct and mail such postal card to the corresponding secretary of this society, as named above. Neglect to make this report will render any recipient of plants ineligible in future plant distributions of this society.

A YOUNG PEOPLE'S HORTICULTURAL SOCIETY.

In any school in which ten or more pupils, who are eligible to receive plants under the conditions named above shall apply for the same, it is recommended that such pupils form themselves into a young people's horticultural society, to be governed by the following constitution, provided that the teacher of the school or some other person at least eighteen years of age, who understands the elements of parliamentary usage, will volunteer to act as presiding officer at the meetings of such society.

CONSTITUTION FOR YOUNG PEOPLE'S HORTICULTURAL SOCIETY.

(1). This organization shall be known as the (name to be chosen by members) Horticultural Society.

(2). Its officers shall consist of a president, who shall preside at all meetings; a secretary, who shall record the minutes of the meetings and conduct the correspondence of the society, and a treasurer, who shall hold the funds of the society subject to the written order of the president. These officers shall be elected by ballot at the spring meeting of the society, and shall continue in office until their successors are elected.

(3). Pupils eligible to receive plants under the conditions specified in this circular, who have applied for the same, and who have paid the required fee, shall be charter members of this society. Such charter members may elect other persons over twelve years of age to membership by a two-thirds vote. Such elected person shall pay to the secretary a membership fee of five cents.

(4). A majority of the members shall be necessary to constitute a quorum for the transaction of business.

(5) Not less than two meetings shall be held by this society during each year; one, to be called the spring meeting, shall be held on Arbor Day; the other, to be called the fall meeting, on the first Tuesday of October. At each of these meetings at least two papers shall be presented on some horticultural subject; the papers and subjects to be assigned by the president. Other meetings may be held at the call of the president.

At both the spring and fall meetings, the secretary of this society must send a report to the corresponding secretary of the Wisconsin Horticultural Society, of the number of members, the number of meetings held since the last report, the numbers and titles of the papers presented; and at the fall meeting, a report must be sent of the condition of all plants furnished by the state society, as prescribed elsewhere in this circular.

The newspapers of the state are earnestly requested to co-operate with us by calling the attention of school district officers, and their readers, to the subject matter of this circular, to the end that Arbor Day may be properly observed throughout our state.

M. A. THAYER, *President*,
Sparta.

B. S. HOXIE, *Secretary*,
Evansville.



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